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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,800	03/03/2004	Masao Tomikawa	360842006010	4377
25227	7590	06/28/2006		
MORRISON & FOERSTER LLP 1650 TYSONS BOULEVARD SUITE 300 MCLEAN, VA 22102			EXAMINER CHU, JOHN S Y	
			ART UNIT 1752	PAPER NUMBER

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/790,800

Applicant(s)

TOMIKAWA ET AL.

Examiner

John S. Chu

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,9-12 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,9-12 and 14-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to the RCE filed May 31, 2006.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

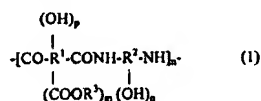
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4, 9-12, and 14-22 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by OBA (5,585,217).

The claimed invention is drawn to the following:

17. (Previously Presented) A positive-working photosensitive resin precursor composition containing (a) a polymer in which structural units of the kind denoted by general formula (1) below are the chief component and (b) a photoacid generator, and the total carboxyl groups contained in said polymer is from 0.02 to 2.0 mmol/g:



wherein one of the following conditions (A) and (B) is satisfied:

(A) a residual chlorine ion concentration is 30 ppm or less, or

(B) a residual quantity of sodium, potassium and iron ions is 10 ppm or less,

wherein R¹ is an organic group of valency from 3 to 8 having at least 2 carbon atoms, R² is an organic group of valency from 2 to 6 having at least 2 carbon atoms, R³ is hydrogen or a monovalent organic group with from 1 to 10 carbons but it is not all hydrogen nor is it all a monovalent organic group with from 1 to 10 carbons. n is an integer of value from 3 to 100,000, m is 1 or 2, p and q are integers of value from 0 to 4 p + q > 0, and

wherein some of the carboxyl groups of the polymer represented by general formula (1) are imidized by reaction with an adjacent amide group, and the percentage such imidization is from 1% to 50% of said carboxyl groups of the polymer represented by general formula (1).

OBA anticipates the claimed invention at Example 3 found in column 27, line 40-28, line 25. The example discloses a mixture of a polyamic acid resin and a polyimide resin as the binder and a photosensitizer. This disclosure meets the claimed positive working photosensitive resin of claim 17 comprising a polymer of formula (1), and a photoacid generator. The disclosure in claim 17 for the carboxyl groups of general formula (1) which are imidized and the percentage is from 1% to 50% is met by the disclosed blend of a polyimide in Example 3 of OBA. Here the polyimide is present in an amount of about 7% which would meet the claimed percentage of imidization of 1% to 50% as claimed. Polymer resins in a composition are made up of many polymer chains and the blend as recited in OBA et al would be identical to the recited polyamic acid having a percentage of the polymer chains imidized.

Because OBA discloses a blend of polymer chains, each of the polymers when precipitated, would remove any impurities such as chlorine, sodium, potassium and iron ions. Thus the reference is asserted to meet the claimed ion concentration.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. OBA (5,753,407) is cited of interest and is cumulative to the '217 reference having the same disclosure because '407 is a continuation of OBA '217.

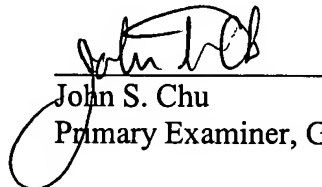
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Cynthia Kelly, can be reached on (571) 272-1526

The fax phone number for the USPTO is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John S. Chu
Primary Examiner, Group 1700

J.Chu
June 23, 2006